

MAR 19990019: SAWRIDGE

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19990019
MAY 27 1999

DANIEL HANGARTNER

**1998 – 1999 EXPLORATION OF THE LESSER
SLAVE LAKE SAWRIDGE BLOCK PROPERTY**

NORTH-CENTRAL, ALBERTA

**Metallic and Industrial Minerals Permit
9395020019**

**Geographic Co-ordinates
55°12'00" to 55°20'00" N
114°47'00" to 114°55'30" W**

NTS Sheets 83 O/2 and O/7

1999.05.25

Prepared by

A. Hangartner, Prospector

**756736 Alberta Ltd.
4011 – 37 Avenue
Leduc, Alberta
T9E 6E1**

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1. SUMMARY

Alberta metallic and industrial minerals permit 9395020019 located southwest of the town of Lesser Slave Lake, Alberta in the northeastern part of the Swan Hills was further explored for primary diamond deposits. The anomalous areas investigated were chosen from recommendations by Halferdahl & Associates Ltd.

Blanket Earth Resources Ltd. in conjunction with 756736 Alberta Ltd. conducted ground magnetic surveys to more precisely localize the source or possible sources, of some of the aeromagnetic anomalies. Several topographic circular oval-shaped physiographic features described as warranting additional exploration were also investigated. Concentrated streambed soil samples were collected from several streams near possible source areas and sent in for diamond indicator mineral analysis.

Saskatchewan Research Council processed and identified the presence of various diamond indicator minerals.

2. INTRODUCTION

During 1997 and early 1998 Blanket Earth Resources Ltd. in conjunction with 756736 Alberta Ltd. conducted exploration for primary diamond deposits within the Lesser Slave Lake property on behalf of Daniel Hangartner. Exploration activities included the acquisition of high-resolution aeromagnetic data (HRAM) from Spectra Exploration Geoscience Corp. and Terraquest Ltd.; ground magnetometer surveys by Blanket Earth Resources Ltd. in conjunction with 756736 Alberta Ltd.; and a brief review of aerial photographs, digital elevation data, and other publicly available information by Halferdahl & Associates Ltd.. An assessment report, titled "1997 and Early 1998 Exploration of the Lesser Slave Lake Property", describing the exploration conducted at the Lesser Slave Lake property was prepared and submitted for Daniel Hangartner by Halferdahl & Associates Ltd..

The assessment report herein describes the exploration conducted at the Lesser Slave Lake Sawridge Block property during 1998 through early 1999. It has been prepared at the request of Daniel Hangartner, who is the owner of the metallic and industrial minerals permit 9395020019.

3. LOCATION AND ACCESS

Property Location

TABLE 3.1 Property Descriptions And Location Of Permit.

Claim:	February 1997 – 1999, active MAIM permit # 9395020019.
Legal Land Description:	Tp.72 – 6W5 (Sec. 2-11; 14-23; 26-33; 34S, NW, NEP; 35NP, SEP, SW; 36SWP) Tp.73 – 6W5 (Sec. 3SP; 4S; 5S; 6S, NW; 7W; 18N, SW, L1N, L2N, L7, L8) - portions south and west of Hwy. 2 Tp.73 – 6W5 (Sec. 19SP) - portions outside Lesser Slave Lake.
Area:	8568.72 (ha) Approx.
See Figure:	Fig. 3.2 Location Map – Previous Active Area.

Claim:	February 1999 - 2001, active area retained, MAIM permit # 9395020019. *
Legal Land Description:	Tp.72 – 6W5 (Sec. 3L13; 4L5, L12, L16; 5L9, L10, L14, L15; 6SW, L2, L7, L11-13; 7L4-6, L11, L12, L14, L15; 8SE, L3, L5, L6, L11, L14; 9L1, L5-9, L16; 10SW, L2, L7, L8, L16; 11SE, L5, L6, L11, L12, L14-16; 14L1, L3-5, L12, L13; 15E, L3, L6, L11-13; 16L13, L14; 17N, L3, L5-7; 18SW, NE, L11, L14; 19SW, L2, L9, L12, L13, L16; 20L1, L3-5, L11-13; 21L3, L4, L6, L7, L10, L11, L13-16; 22L1, L8, L13; 23L4-7, L10, L15, L16; 26E, L11, L14; 27W, L3, L7, L11, L15; 28L8, L9, L15, L16; 29L4-6, L11, L12; 30L3-5, L9; 31L16; 32L9, L13-16; 33L12-15; 34L2-4, L7, L10, L11 L13, L14) Tp.73 – 6W5 (Sec. 3L4; 4L1, L2; 6SE, L5, L6, L11, L12)
Area:	3269.86 (ha) Approx.
See Figure:	Fig. 3.2 Location Map - Retained Active Area.

* The Terraquest Ltd. 1997 high resolution aeromagnetic survey revealed about a hundred low intensity anomalies. The interpretation stated that not all kimberlite pipes possess strong magnetic responses and that all anomalies should be investigated carefully on the ground. The retained area encompasses about 90% of all small anomalies indicated on the contoured vertical gradient map. We want to investigate these.

Property Access

The property is located in north-central Alberta, about 200 km northwest of the City of Edmonton and immediately southwest of the town of Slave Lake (Fig. 3.1). The property extends from 55°12'00" to 55°20'00" north latitude and 114°47'00" to 114°55'30" west longitude, within NTS map sheets 83 O/2 and O7.

The property edge is accessible by several graveled service roads leading from Highway 2, west of the town of Slave Lake (Fig. 3.2). Seismic lines provide all-terrain vehicle or snow-machine access to most remote areas of the property.

The property also encompasses areas of development along Highway 2 consisting of several farms and housing developments. There is a minor amount of oilfield culture in the northeastern and southeastern sections. Infrastructure near the area include accommodation, food and vehicles at Slave Lake.

The property is in the northeastern part of Swan Hills within the hydrographic basins of the Mooney and Sawridge Creeks.

4. PERMIT TABULATION

MAIM Permit # 9395020019 is held by Daniel Hangartner of Blanket Earth Resources Ltd., P. O. Box 37, Slave Lake, Alberta. This report is being submitted for Daniel Hangartner by August Hangartner of 756736 Alberta Ltd., 4011 – 37th Ave., Leduc, Alberta.

5. WORK PERFORMED

Work Description

Between Feb 27, 1998 and Feb 27, 1999, Blanket Earth Resources Ltd. in conjunction with 756736 Alberta Ltd. carried out more preliminary ground follow-ups of the HRAM anomalies and other features as recommend by Halferdahl & Associates Ltd¹. Soil samples were collected, concentrated and sent in for diamond indicator mineral analysis.

¹ See assessment report: 1997 and Early 1998 Exploration of the Lesser Slave Lake Property by Halferdahl & Associates Ltd.

Site Selection

Several different sites were chosen from the recommended sites¹ to conduct magnetic surveys (Table 5.1 – Exploration, Grid Flagging, Soil Sampling, and Magnetic Ground Survey Locations, Feb. 1998 - 1999). Grids were established by flagging north-south and east-west lines. Stations were measured and positioned using hip chain, compass, and GPS. The size of the grid and the line spacing chosen depended on the terrain and the data.

Magnetic surveys were performed on only four of the grids. (Some sites were flagged early in the year when there was no foliage. When we proceeded to the magnetic ground survey, it was nearly impossible to see the flags through the heavy foliage. Rather than cut seismic lines and redo the grid, a decision to wait for fall was made. Due to an unusually high snowfall in the area and an access problem, some magnetometer surveys have been postponed.)

Data collected for each grid was uploaded via Internet and processed at a later date (For data collection methods, processing methods and equipment used see Appendix 2 – Methods of Ground Magnetic Surveying Employed).

Soil samples were collected from stream beds at two locations (See Fig. 5.1). The first sample, S4025, was taken from a small stream that flows into the Sawridge Creek where two smaller streams converged. One of these flowed below 97-7¹, AT13¹ and AT14¹, the other, below P2¹, AT15¹, and AT12¹. The nearest anomaly was AT12¹, 200m up stream. The second sample, S3326, was taken from a small stream that flows into the Mooney Creek, about 230m down hill from AT21¹.

The stream bed samples were meshed, then hand panned down to concentrates. The process was slow going and the amount of material collected turned out quite small. The samples were sent to Saskatchewan Research Council Geoanalytical Services for diamond indicator mineral analysis. Table 5.2, Soil Sample Indicator Mineral Grain Description, displays the results. (For a description of the analytical methods used see Appendix 3 – Methods of Diamond Indicator Minerals Recovery).

¹ See assessment report: 1997 and Early 1998 Exploration of the Lesser Slave Lake Property by Halferdahl & Associates Ltd.

Table 5.1 Exploration, Grid Flagging, Soil Sampling, and Magnetic Ground Survey Locations, Feb. 1998 - 1999.

Locations of field work performed by Blanket Earth Resources Ltd. *

Previous Identifier ***	UTM		Report Identifier □	Work Description	Dates	Shown in Figure
	Easting	Northing				
AT13 [2]	639709	6126461	G3926-1 P3926-1 M3926-1	Exploration & Gridding Magnetic Profile Magnetic Grid	Mar 6-8/98, Mar 13-22/98 Mar 10/98 Mar 22/98	5.1 5.2 5.2
AT16 [2]	639168	6126505	G3926-2	Exploration & Gridding	Mar 30- Apr 6/98	5.1
AT14 [2]	639577	6125891	G3925-1	Exploration & Gridding	Apr 8-10/98	5.1
AT12 [2]	639840	6125468	G3925-2	Exploration & Gridding	Apr 11-14/98	5.1

Locations of field work performed by 756736 Alberta Ltd. **

Previous Identifier ***	UTM		Report Identifier □	Work Description	Dates	Shown in Figure
	Easting	Northing				
AT13 [2]	639709	6126461	P3926-1	Magnetic Profile	Mar 10/98	5.2
Dan3 [4]	640522	6126190	S4026	Soil Sampling	Aug 12-13/98	5.1
AT24 [2]	632806	6123589	G3223 M3223	Exploration & Gridding Magnetic Grid	Aug 10-11/98 Aug 11/98	5.1 5.3
AT21 [2]	633851	6126191	G3326	Exploration	Aug 7/98	5.1
Dan2 [4]	633730	6126380	S3326 G3326 M3326	Soil Sampling Gridding Magnetic Grid	Aug 8-9/98 Nov 20-21/98 Nov 21/98	5.1 5.1 5.4
P7 [3]	633777	6124855	G3724 M3724	Exploration & Gridding Magnetic Grid	Dec 9-10/98 Dec 10/98	5.1 5.5
P2 [3]	638113	6124576	G3824	Exploration	Jun 28/98	5.1
AT16 [2]	639168	6126505	G3926	Exploration	Jun 29/98	5.1
P3 [3]	636066	6121263	G3621	Exploration & Gridding	Dec 12/98	5.1
P5 [3]	634265	6123635	G3423-1	Exploration	Dec 11/98	5.1
P4 [3]	634445	6123023	G3423-2	Exploration	Dec 11/98	5.1

* As provided by D. Hangartner of Blanket Earth Resources Ltd.

** As provided by A. Hangartner of 756736 Alberta Ltd.

*** Identification from the following sources by Halferdahl & Associates Ltd. in an earlier report titled "1997 AND EARLY 1998 EXPLORATION OF THE LESSER SLAVE LAKE PROPERTY"

[1] Spectra Exploration Geoscience Corporation.

[2] Terraquest Ltd. (1998).

[3] Halferdahl & Associates Ltd. - Selected Physiographic Features

[4] 756736 Alberta Ltd. - Identification from the above sources or from physiographical features since report.

□ Report Identifiers are derived from the work performed and the UTM location:

Work: Flagged grid - G
Soil sampled - S
Magnetic grid - M
Magnetic Profile - P

UTM: 6[39]709 E 61[26]461 N

[- #] means that more than one work site exists in the defined UTM work space, 639000 - 639999 to 6126000 - 6126999.

G3926-1

Findings

P3926-1: A profile done to see if readings to the north of AT13¹ would drop off. The lower readings prompted the need for a grid extension, M3926-1, to map the northern portion of AT13¹. The profile becomes part of M3926-1 and is depicted in Fig. 5.2.

M3926-1: This magnetic ground survey, (Fig. 5.2), reveals the northern and the north-eastern perimeters of AT13¹. An earlier ground survey (1997-1998) revealed an eastern and a western perimeter. The anomaly appears to be approximately 600m wide and at least 900m long.

M3223: This magnetic ground survey, (Fig. 5.3) investigates AT24¹. The survey readings drop at the east and west ends of the grid which coincide with the sides of the hill top. This would indicate a 200m width. The hill dropped steeply to the south and the grid was terminated at its edge. No boundaries to the north or south were established. The grid will have to be extended to determine if an anomaly truly exists.

M3326: This magnetic ground survey, (Fig. 5.4), investigates AT21¹. The survey readings are consistent with the hill top. The anomaly appears to be approximately 200m x 200m in size.

M3724: This magnetic ground survey, (Fig. 5.5), investigates P7¹. The survey readings are consistent with the hill top. The hill top is an oval shape that extends diagonally NW-SE. The NS-EW survey grid lines didn't fit well on the hill top and as a result the SE portion of the hill was not surveyed. The extent of this anomaly can't be accurately determined but if it continues to be consistent with the shape of the hill it will be approximately 250m x 250m.

¹ See assessment report: 1997 and Early 1998 Exploration of the Lesser Slave Lake Property by Halferdahl & Associates Ltd.

Table 5.2**Soil Sample Indicator Mineral Grain Description**

Sample:	Dan2			Dan3		
Sample Weight in Grams:	234.6 ^[1]			1285 ^[1]		
Mid Fraction -1.00+0.18MM Dry Weight in Grams:	160.6			884.4		
Frantz Lowers @ 0.34 Amps in Grams:	3.63			23.5		
Frantz Uppers @ 0.19 Amps in Grams:	12.06			55.56		
Report Identifier:	S3326 ^[2]			S4026 ^[2]		
Location of soil sample shown in figure:	5.1			5.1		
	Definite	Possible	% Picked	Definite	Possible	% Picked
Pyropic Garnet Grain Count:	1	2	100	0	0	100
Cr - Diopside Grain Count:	1	0	100	0	0	100
Pirocroilmenite Grain Count:	0	15	15	0	15	6
Chromite Grain Count:	0	3	15	0	2	6

Saskatchewan Research Council Geoanalytical Services ref. description: OT99.12, M141HM Indicators.

[1] Samples were small.

[2] Table 5.1 explains how report identifier codes are derived.

Distances Gridded and Surveyed

Total grid line/km: 24

Total ground magnetic survey line/km: 12

Soil samples taken: 2

Exploration Expenditures

Blanket Earth Resources Ltd. exploration expenditures: \$12,855.00

756736 Alberta Ltd. exploration expenditures: \$22,590.00

Total expenditures, February 1998 – February 1999: \$35,445.00

For a summary of expenditures see Appendix 1 – Statement of Reasonable Expenditures. (A detailed breakdown of dates, activities, data and equipment used has been retained and is available upon request.)

Metallic and industrial minerals permit 9395020019 is privately owned and exploration expenditures are not financed by share holders.

6. CONCLUSIONS

The ground magnetic surveys confirm data depicted on the aeromagnetic survey maps. Areas have been identified that warrant further exploration. Grids M3724 and M3226, in particular, show a definite correlation with the topographical contours of the hills that they were carried out on. The small soil sample taken near M3226 revealed the presence of diamond indicator minerals. The magnetic surveys identify the possibility of large anomalies at grids M3926-1 and M3223. The size of the grids should be expanded to map the entire perimeter of the anomaly before further investigation with a drilling program is started. All anomalies depicted on the aeromagnetic map should be investigated.

7. BIBLIOGRAPHY

Terraquest Ltd. (1998) High resolution aeromagnetic survey.

Lesser Slave Lake project; unpublished report dated 98/02/16 to Halferdahl & Associates Ltd., Edmonton, by Terraquest Ltd., Toronto, 15 p., 5 fig., 9 maps.

- 1. 5.0 Data Processing - Processing steps and some important concepts that should be highlighted with regard to cultural editing.**
- 2. 6.0 Interpretation -Techniques and comments offered to assist in the interpretation of the horizontal gradient vectors.**
- 3. Contoured Vertical Gradient of RTF and Horizontal Gradient Vectors, Sawridge Block, high resolution magnetic survey map.**

Halferdahl & Associates Ltd. (1998) Assessment report. 1997 and Early 1998

Exploration of the Lesser Slave Lake Property, North -Central, Alberta dated 1998/05/26, 23 p. 11 fig., 6 app.

- 1. 10. Conclusions – Anomalies warrant additional exploration.**
- 2. Appendix 2 – Location of Anomalies.**
- 3. Appendix 2 - Selected Physiographic Features.**
- 4. Appendix 2 – Coincident Anomalies and Physiographic Features.**

8. QUALIFICATIONS

Qualifications and work experience of the author of this report:

Education:


Graduate of NAIT, - Electronics Engineering Technology (1970).

Work experience:

Many years experience as a Technical Systems Analyst working with complex computer systems, programming, troubleshooting, interfacing devices, etc.

I have no formal training in Geology. Prospecting is a hobby.

I have an indirect interest in metallic and industrial minerals permit 9395020019, the subject of this report. It belongs to my brother Dan.



**August Hangartner
Part time prospector,
Leduc, Alberta
May 25, 1999.**

Distribution:

Minister of Energy:	2 copies
Blanket Earth Res. Ltd.	2 copies
756736 Alberta Ltd.	1 copy

Wood
Buffalo
National
Park



HIGH LEVEL

FORT VERMILION

58° 00'N

57° 00'N

56° 00'N

55° 00'N

LOCATION
MAP

35

66

PEACE
RIVER

750

GRANDE
PRAIRIE

HIGH PRAIRIE

SLAVE LAKE

VALLEYVIEW

**SAWRIDGE PROPERTY
LOCATION**

SYMBOLS
■ Active Permit

DANIEL HANGARTNER

**756736 ALBERTA LTD.
LEDUC, ALBERTA**

**Fig. 3.1 Location and Index Map
MAIM Permit # 9395020019
LESSER SLAVE LAKE AREA, ALBERTA**

A. Hangartner

1999.04

WHITECOURT

Scale 0 10 20 100 Kilometers

116° 00'W

R/W Meridian
114° 00'W

Calling Lake



to Edmonton

Calling Lake

Athabasca River

Peace River

Bison Lake

Peerless Lake

RED EARTH CREEK

Cadotte Lake

Lubicon Lake

Urkuna Lake

Lesser Slave Lake

GRANDE PRAIRIE

HIGH PRAIRIE

SLAVE LAKE

VALLEYVIEW

WHITECOURT

Scale 0 10 20 100 Kilometers

116° 00'W

R/W Meridian
114° 00'W

Calling Lake



to Edmonton

Calling Lake

Athabasca River

Peace River

Bison Lake

Peerless Lake

RED EARTH CREEK

Cadotte Lake

Lubicon Lake

Urkuna Lake

Lesser Slave Lake

GRANDE PRAIRIE

HIGH PRAIRIE

SLAVE LAKE

VALLEYVIEW

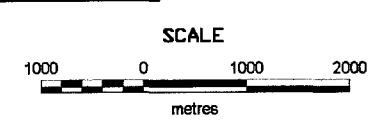
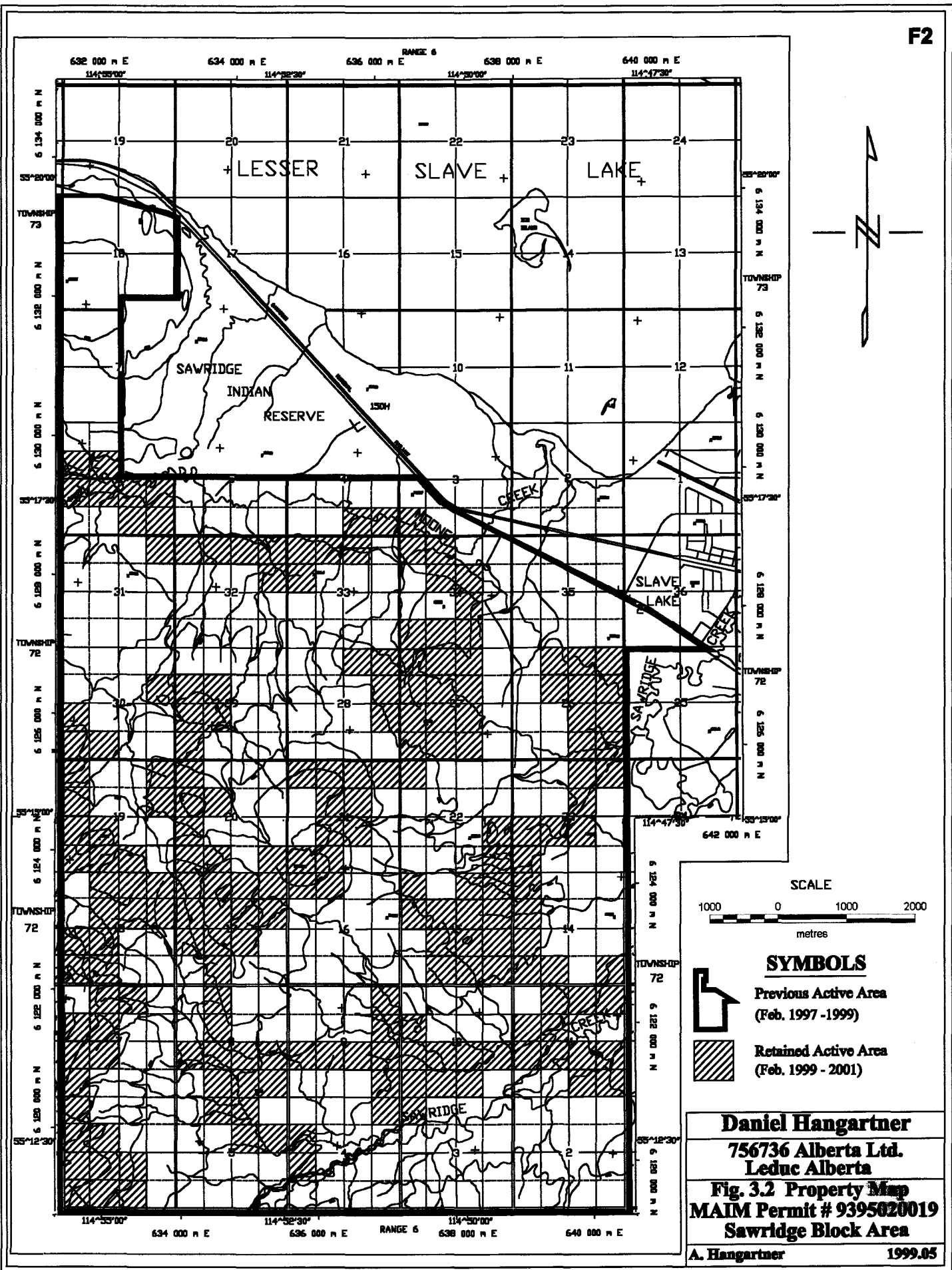
WHITECOURT



Scale 0 10 20 100 Kilometers

116° 00'W

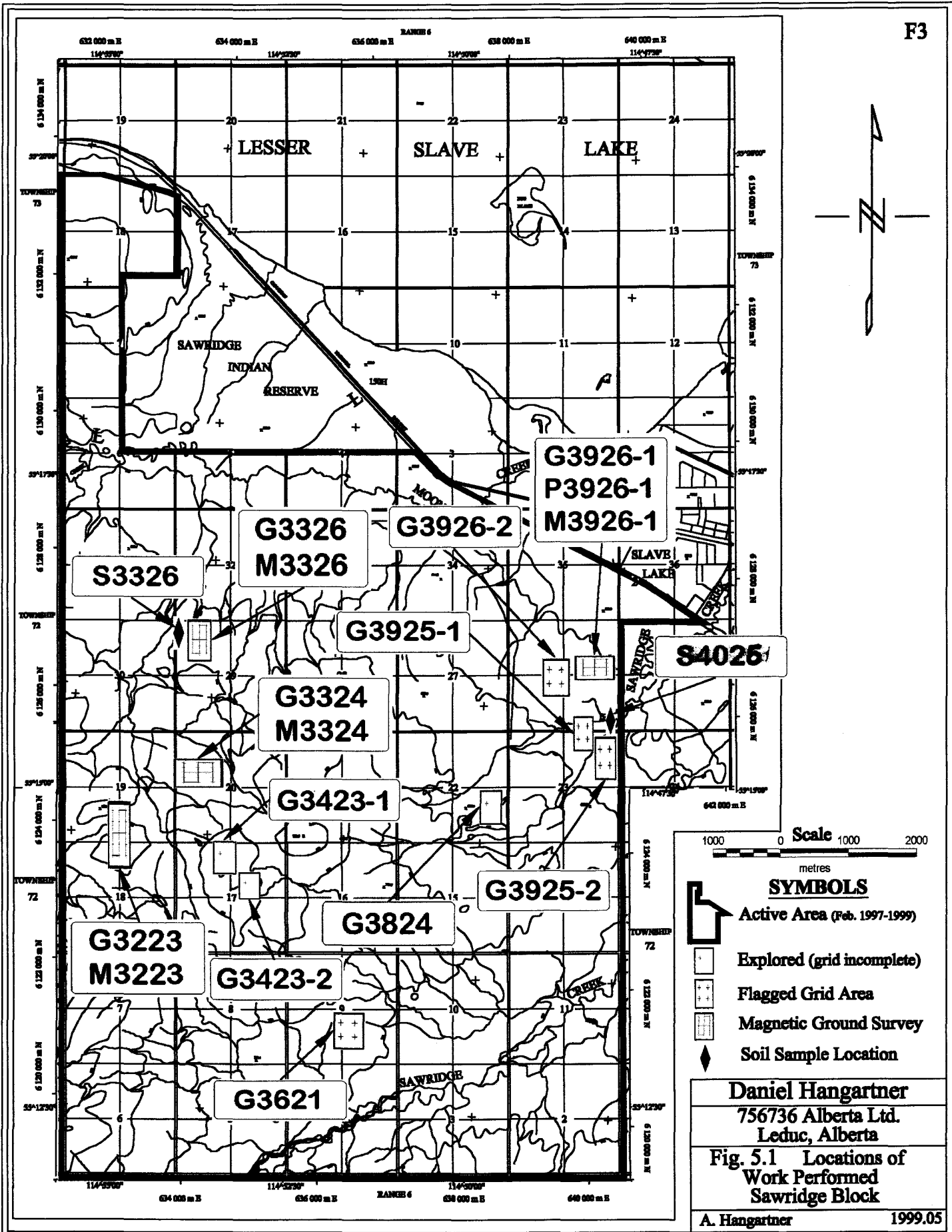
R/W Meridian
114° 00'W

Calling Lake



- SYMBOLS**
-  Previous Active Area (Feb. 1997 - 1999)
 -  Retained Active Area (Feb. 1999 - 2001)

Daniel Hangartner
756736 Alberta Ltd.
Leduc Alberta
Fig. 3.2 Property Map
MAIM Permit # 9395020019
Sawridge Block Area
A. Hangartner **1999.05**

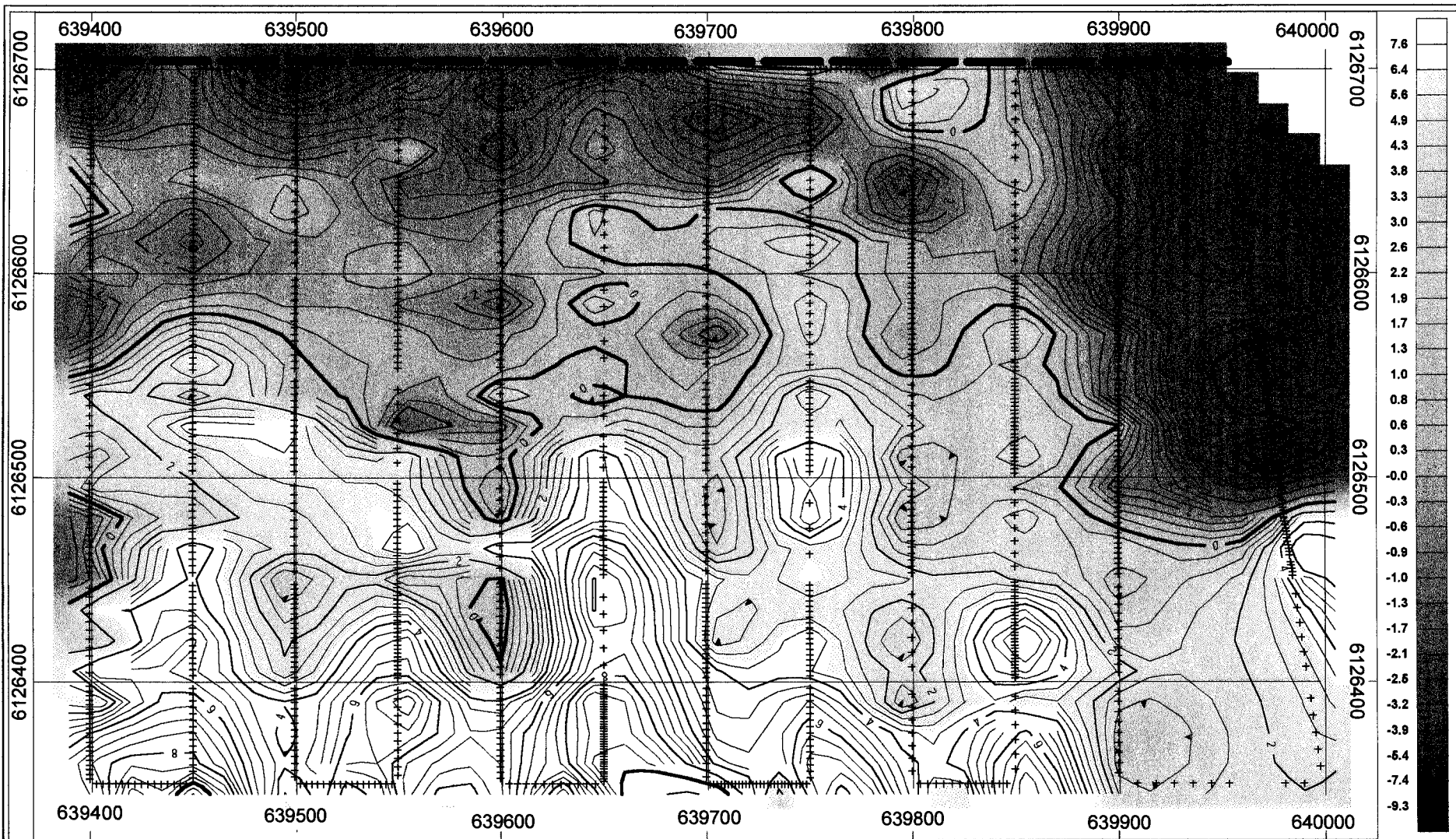


- SYMBOLS**
- Active Area (Feb. 1997-1999)
 - Explored (grid incomplete)
 - Flagged Grid Area
 - Magnetic Ground Survey
 - Soil Sample Location

Daniel Hangartner
 756736 Alberta Ltd.
 Leduc, Alberta

Fig. 5.1 Locations of Work Performed Sawridge Block

A. Hangartner 1999.05



59130 nT

Daniel Hangartner
756736 Alberta Ltd.
Leduc, Alberta

SYMBOLS

- + Location of Magnetic Reading**
- Profile P3926-1**

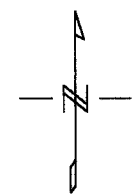
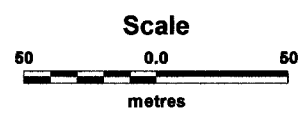
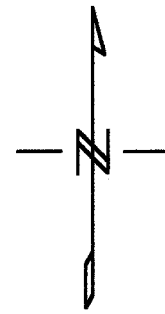


Fig. 5.2 Ground Magnetic Survey: M3926-1 Sawridge Block

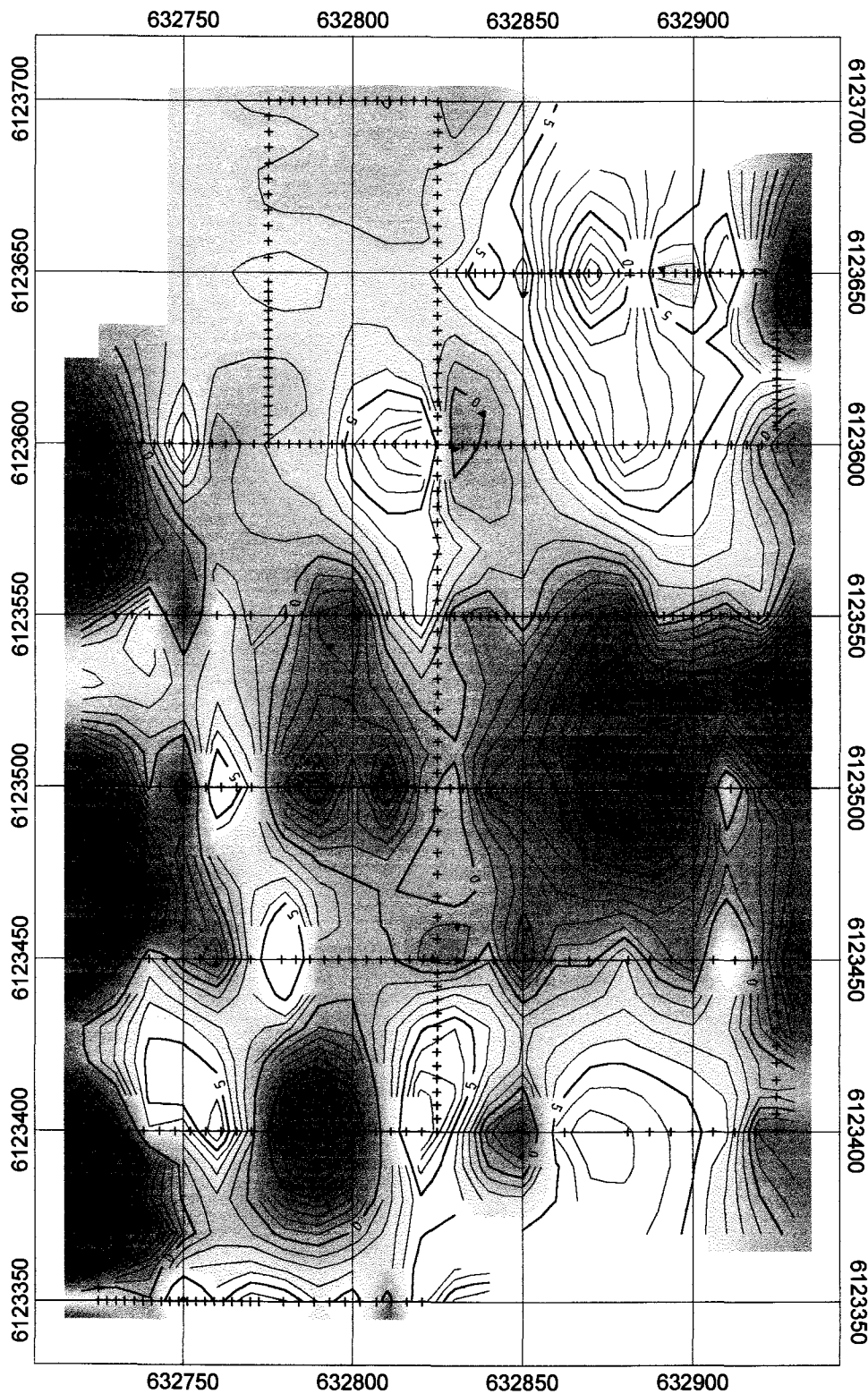
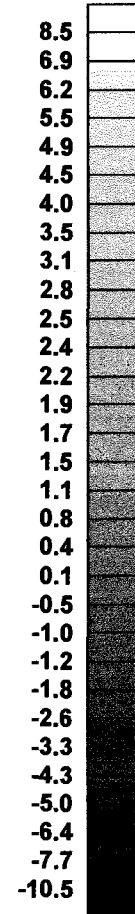


A. Hangartner 1999.05

F5

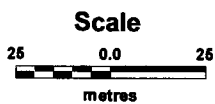


58980 nT



Symbol

+ Location of Magnetic Reading



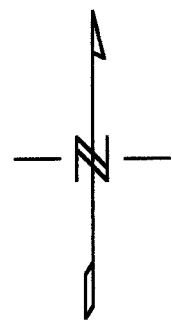
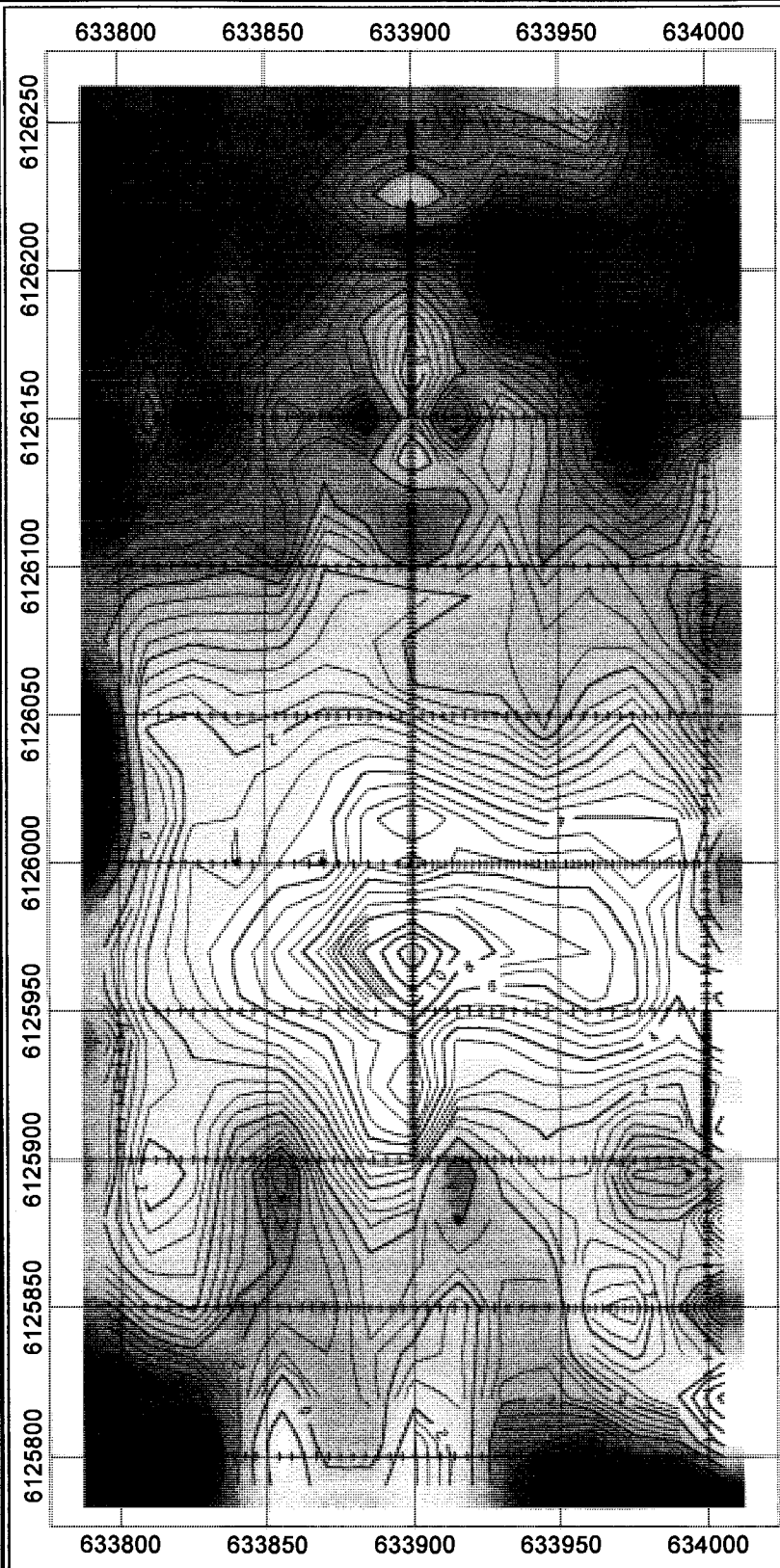
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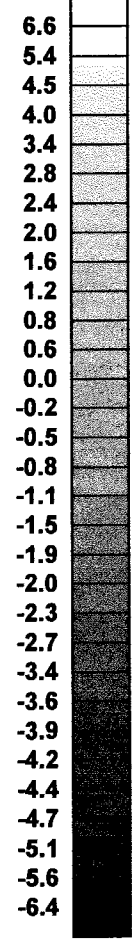
**Fig. 5.3 Ground Magnetic
Survey: M3223
Sawridge Block**

A. Hangartner

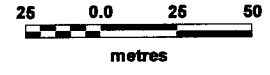
1999.05



59850 nT



Scale



SYMBOL

+ Location of Magnetic Reading

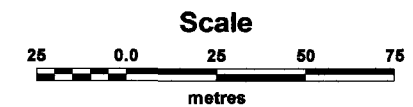
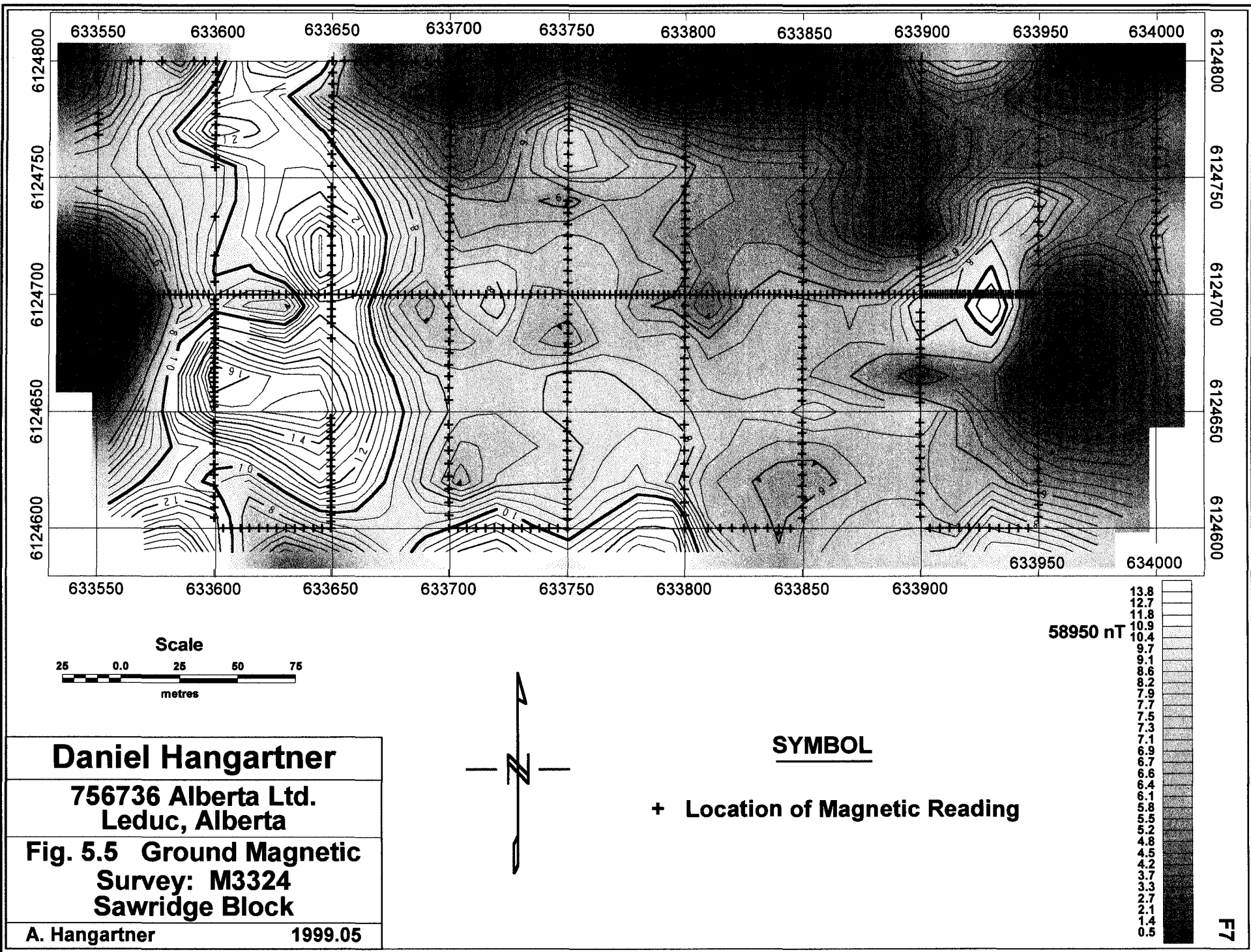
Daniel Hangartner

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Leduc, Alberta**

**Fig. 5.4 Ground Magnetic
Survey: M3326
Sawridge Block**

A. Hangartner

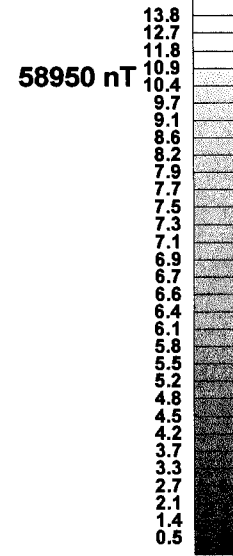
1999.05



Daniel Hangartner
756736 Alberta Ltd.
Leduc, Alberta
Fig. 5.5 Ground Magnetic
Survey: M3324
Sawridge Block

SYMBOL

+ Location of Magnetic Reading



A. Hangartner **1999.05**

Appendix 2: Methods of Ground Magnetic Surveying Employed.

Collection Method

The magnetic surveys were performed using an Overhauser Model GMS-19 Memory Magnetometer carried by the operator devoid of any magnetic materials and other ferrous metals. The operator walked each survey line, recording continuous time and magnetic intensity readings at 3 second intervals. At fixed stations along each survey line, the exact time of arrival and the location of the station were logged for post processing. After the survey lines were finish, a tie-line traversing the grid intersecting the lines at known locations was completed as a quality check for additional reference.

The base magnetometer, an Overhauser Model GSM- 19 located at a fixed position operating in base mode, recorded continuous time and magnetometer readings at 3 second intervals for post processing diurnal correction. Both units are proton magnetometers with omnidirectional sensors.

Processing Method

The collected data: base (time and reading), mobile (time, reading and location) and the GPS readings - were downloaded in the field to a Pentium II/266 based laptop processor. The data was then uploaded, via the Internet, for post processing and plotting.

Using a program, written in Microsoft Access on a Pentium II/300 PC processor, variations of the base station were subtracted from the field mobile instrument data to give a data set which varies only with position. The GPS information was used to map the grid and the grid description was used to scale the location of each station. The logged time, location and grid location information were used to correlate measurements with location. The data collected at each station is therefore attributable to local variations in magnetic materials in the underlying rocks. Another Microsoft Access program module was used to process the data collected at 3 second intervals by spacing the readings evenly between the station locations at which they occurred. The addition of the latter process gives a more accurate presentation of what data might be present between stations. Grid information at tie line intersections were checked for any intensity discrepancies and where necessary, line levelling corrections were applied.

The data were then contoured using Geosoft Oasis Software. The maps produced represent a set of contours joining points of equal magnetic field intensity measurements (i.e. an isomagnetic contour map), which in turn are determined from a grid of equally spaced points between nodes that have been interpolated from the original data.

Appendix 3: Methods of Diamond Indicator Minerals Recovery

Sediment samples were subjected to various procedures that included:

- dispersion and screening at ± 1.7 mm
- shaker table gravity separation of -1.7 mm fraction
- permroll paramagnetic separation
- magstream heavy liquid separation
- ferromagnetic separation
- frantz paramagnetic separation
- binocular microscopic identification of diamond indicators

**Saskatchewan Research Council Geoanalytical Services Laboratory Sediment
Sample processing package used**

Re: Picking of diamond indicator mineral grains

- color and morphology were the main determining factors
- officially reported as 'Definite' are picked mineral grains that have a high probability of being indicators
- borderline indicators labeled as 'Possible' have a lower probability of being indicators

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